

### REMARKS

Claim 1 has been amended. New claim 7 has been added. Thus, claims 1-4, 6 and 7 are now presented for examination. Support for the amendment to claim 1 may be found in the specification at page 7, formula (2). Support for new claim 7 may be found in the specification at page 4, line 18 to page 5, line 9. Thus, no new matter has been added. Reconsideration and withdrawal of the present rejection in view of the remarks presented herein are respectfully requested.

#### Rejection under 35 U.S.C. § 103(a)

Claims 1-4 and 6 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sasaki et al. (US 7,198,880). The Examiner alleges that it would have been obvious to prepare the material of Sasaki et al. choosing to have -OH groups on the -OCH<sub>2</sub> groups in place of -OR and/or also to substitute the H atoms with F atoms.

Claim 1 as amended recites a photoresist composition comprising a base material resin component (A) which comprises a polymer compound comprising an alkali soluble group (i) which is protected by an acid dissociable, dissolution inhibiting group (ii) represented by the general formula (1) and the formula (2), i.e.  $R = -CH_2OC_2H_5OCH_3$ . As noted in the present Office Action, column 12 of Sasaki et al. state that X may be a  $-C(R_{14a})(R_{15a})(OR_{16a})$  group and  $R_{16a}$  represents an alkyl group which may optionally have a substituent. Also, column 13, lines 6-18 of Sasaki et al. provides examples of substituents, including a halogen atom, a hydroxyl group, an alkoxyl group, and a cyano group. Accordingly, although the organic group X disclosed in Sasaki et al. represents various types of substituents,  $-CH_2OC_2H_5OCH_3$  as recited in present claim 1 is neither disclosed nor suggested by this reference. Thus, claim 1 as amended, in addition to claims 2-4 which depend either directly or indirectly on claim 1, cannot be obvious over this reference.

Claim 7 recites a polymer compound comprising the alkali soluble group (i) which is protected by the acid dissociable, dissolution inhibiting group (ii) represented by a general formula (1). This acid dissociable, dissolution inhibiting group (ii) includes the hydrophilic group selected from a carbonyl group, an ester group, an imino group, or an amino group.

In contrast, at column 13, lines 6-18, Sasaki et al. discloses substituents including a halogen atom, a hydroxyl group, an alkoxyl group, and a cyano group, but neither discloses nor

suggests the above-referenced hydrophilic groups. Thus, Claim 7 is also not obvious in view of Sasaki et al.

#### Unexpected results

The presently claimed invention also has unexpected, advantageous results that would effectively rebut any allegation of *prima facie* obviousness based on Sasaki et al. Because alkali solubility is greatly changed before and after exposure in the system of a chemically amplified positive resist due to the above acid dissociable, dissolution inhibiting group (ii), the photoresist composition recited in present claim 1 can achieve a fine pattern with high resolution, the prevention of thickness loss of the resist pattern, and the reduction in developing defects (see present specification at page 5, line 19 to page 6, line 2). In addition, this photoresist composition results in significant reduction of thickness loss of the top part of a fine resist pattern (present specification at page 22, lines 8-13).

Example 1 of the present specification describes the resins 3-5 and 6 represented by the formulae (27-29) and (30) which have the organic group of  $-\text{CH}_2\text{OC}_2\text{H}_5\text{OCH}_3$ . Example 2 of the present specification describes that the positive photoresists containing each of the resins 3-6 were used to form the resist patterns which showed the line and space pattern with a line width of 120 nm and a rectangular pattern shape.

These unexpected results are neither disclosed nor suggested by Sasaki et al. and could not have been predicted by one having ordinary skill in the art. In addition, these unexpected results would effectively rebut any allegation of *prima facie* obviousness if one were present, and strongly support the nonobviousness of the present claims. Thus, claims 1 and 7 should now be allowable. Since claims 2-4 and 6 are either directly or indirectly dependent on Claim 1, they should also be allowable.

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

#### No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather,

any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

#### CONCLUSION

Applicants submit that all claims are in condition for allowance. However, if minor matters remain, the Examiner is invited to contact the undersigned at the telephone number provided below. If any additional fees are required, please charge these to Deposit Account No. 11-1410. Should there be any questions concerning this application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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